Who wants to move? The role of neighbourhood change

Abstract

There is growing interest in how, when and where neighbourhoods affect individual behaviours and outcomes. In Britain, falling levels of owner-occupation and the growth of ethnic minority populations have sparked a debate about how neighbourhood characteristics and neighbourhood change intersect with the decision to move. In this paper we investigate how mobility preferences vary with neighbourhood characteristics and neighbourhood change. We use multilevel logistic regression models to test whether this is configured by personal attributes or attachment to one's neighbourhood and perceived similarity to one's neighbours. The results show that neighbourhood deprivation, changes in neighbourhood ethnic composition and changes in tenure mix are associated with preferring to move. Importantly, we show that a feeling of belonging to the neighbourhood or feeling similar to others in the neighbourhood significantly reduces the desire to move.

Introduction

Over the last decade immigration, growing ethnic diversity and the declining homeownership rate have sparked debates about how residential mobility and patterns of neighbourhood change are reshaping British communities and altering the cohesion of British society. Although residential mobility is a critical factor in neighbourhood change, the extent to which neighbourhoods shape moving decisions is less well understood. Exactly how the neighbourhood plays a role in moving decisions is also unclear, partly because studies have tended to unpack this process in two distinct ways. One literature analyses neighbourhood satisfaction and preferences for particular configurations of neighbourhood characteristics using surveys and stated preference experiments (Clark, 2002; Hipp, 2009; Parkes et al., 2002). In contrast, a largely separate body of work examines moving behaviour in order to assess why residential mobility produces neighbourhoods containing concentrations of poverty and ethnic minorities (Clark et al., 2014; Crowder et al., 2012; South et al., 2011).

While these approaches have yielded insights they also have drawbacks. Hypothetic preferences may prove a poor guide to residential outcomes if people have no desire or intention to actually move. Similarly, examining moving behaviour to gain insights about preferences overlooks those people who want to move but who do not go on to do so (Coulter, 2013). Linking knowledge of stated preferences to evidence about actual moving behaviour thus requires a deeper understanding of how moving desires vary across neighbourhoods (van Ham and Feijten, 2008). Desiring to move is widely regarded to be the first 'step' in the process of volitional mobility decision-making (Coulter et al., 2011; Speare et al., 1975). Following Schelling (1971), van Ham and Feijten (2008) suggest that the links between neighbourhood factors and moving desires seem to be mediated by individual attributes, and in particular whether or not individuals differ from the local population.

Although previous work has enhanced our understanding of the preferences underpinning residential sorting, less is known about how different aspects of

neighbourhood change are linked to mobility decisions. Work by Feijten and van Ham (2008, 2009) highlights how moving preferences are shaped by the changing ethnic and tenure composition of neighbourhoods. Classic mobility theories suggest that these patterns may be mediated or further influenced by socio-economic factors and how people perceive their 'place' in the neighbourhood. People who feel that they belong to their neighbourhood are likely to have greater functional attachment and emotional bonds to their locality, making them less likely to want to leave (Livingston et al., 2010). Furthermore, ideas of 'homophily' suggest that people prefer neighbours like themselves, perhaps in part because some studies suggest that living in diverse neighbourhoods is associated with lower social capital and community cohesion (see Finney and Jivraj, 2013 for discussion).

These ideas have influenced British policymakers, who have long expressed concern that community attachment and cohesion can be adversely affected by neighbourhood ethnic change or an influx of poor households (Finney and Jivraj, 2013; Robson et al., 2008). These processes are thought to stimulate selective outward mobility and thus accelerate neighbourhood change, as encapsulated in debates about 'White Flight' (Kaufmann and Harris, 2013) and neighbourhood 'churn' in deprived communities (Robson et al., 2008). Testing the extent to which feelings of belonging and similarity mediate the relationships between individual attributes, neighbourhood characteristics and moving desires can thus provide important evidence about the mechanisms through which changes in neighbourhoods influence mobility decisions.

This paper aims to disentangle how individual attributes, the changing characteristics of neighbourhoods and feelings of neighbourhood belonging and similarity are associated with moving desires in England and Wales. We start by asking how different types of neighbourhood change are linked to moving desires, before testing whether these patterns are affected by individual attributes. We conclude by examining how preferences for residential mobility vary with perceptions of belonging to neighbourhoods and feeling similar to neighbours.

Theory and previous research

Neighbourhoods and residential mobility

Decades of research have demonstrated that people move in order to adjust their housing consumption to meet their changing needs and preferences (Clark and Dieleman, 1996). These new demands often arise as a result of life course events, for example when transitions in household structure alter space requirements and create new dwelling or tenure preferences (Rossi 1955). Ronald's (2008) work shows that these preferences are not formed in a contextual vacuum as they are strongly shaped by social norms, ideologies and political interventions prioritising homeownership. Residential preferences are also highly relational as they are configured by biographical experience and the 'linked lives' of family members and friends. Many studies show that residential moves are influenced by the geography of kinship and social networks (Belot and Ermisch, 2009), as well as prior residential locations and experiences (Feijten et al., 2008).

Classic theories of residential mobility posit that a mismatch between desired and actual housing consumption creates residential disequilibrium. This generates dissatisfaction and stimulates the expression of a desire to move to a more suitable dwelling (Clark and Dieleman, 1996; Speare et al., 1975). This desire may, in time, be followed by a more concrete moving intention, plan or expectation (Coulter et al., 2011). Although many studies concentrate on the housing dimension of residential disequilibrium, Rossi (1955) argued that changing locational preferences brought about by life events or exogenous neighbourhood change can also stimulate residential stress, dissatisfaction and moving decisions. Moves are therefore about adjusting and improving neighbourhood attributes as well as one's housing conditions and proximity to family members and friends (Kearns and Parkes, 2003; Mulder, 2007).

Feijten and van Ham (2009) note that although substantial work has examined how neighbourhoods influence housing satisfaction (Hipp, 2009; Parkes et al., 2002), there is little consensus about how they affect residential mobility decisions. On the one hand Rabe and Taylor (2010) show that perceived and actual neighbourhood quality significantly influences moving decisions. Insights from studies of neighbourhood sorting suggest that a range of physical attributes (such as safety, service quality, cleanliness and access to green space), as well as neighbourhood reputation, are important factors in moving decisions (Hedman and van Ham, 2012; Permentier et al., 2009). On the other hand, studies by Clark and Huang (2004) and Clark and Ledwith (2007) found only modest associations between (dis)liking the neighbourhood and residential mobility.

There are several possible explanations for these divergent findings. Livingston et al. (2010) caution that quantitative studies often struggle to capture information about important 'experiential' variables such as housing history, neighbourhood evaluations or neighbourhood aspirations. Similarly, the geography of family or social networks may affect moving decisions in ways that cannot be easily observed (Mulder, 2007). The selectivity of movers further hinders attempts to uncover how neighbourhoods shape residential mobility. Many people who want to move do not go on to do so as they are restricted by micro-level factors (such as income) or constrained by structural conditions (for example housing availability) (Coulter, 2013). Indeed, the selective realisation of moving desires potentially explains why recent reviews highlight the lack of a simple connection between neighbourhood characteristics and mobility behaviour (van Ham et al., 2012; 2013). Van Ham and Manley (2012) suggest that this means that greater attention needs to be devoted to analysing people's preferences for moving between different types of neighbourhood.

Understanding how neighbourhoods shape moving decisions is complicated still further by the spatiality of housing markets. The standard neo-classical framework is still foremost in discussions of housing markets and the roles of consumption and credit markets (Maclennan, 2012). This model emphasises that households enter the housing market as renters and make utility maximising moves into homeownership as they accumulate resources. Although behavioural perspectives highlight the importance of 'less-rational' thinking and the contextualisation of economic decisions (Gibb, 2012; Smith, 2011), scholars agree that preferences for residential mobility are shaped by the interaction between the economic context, housing policies and the relative costs and attractiveness of owning and renting in particular places (Gibb,

2012). Neighbourhoods play a crucial role in this process as changes in the demographic or physical fabric of areas are bound up with economic processes such as gentrification or neighbourhood decline in ways that are often difficult to disentangle (see Glaeser et al., 2001; 2006.).

Neighbourhood change and moving desires

Important work by van Ham and Feijten (2008) together with stated preference experiments (Clark, 2002) suggest that preferences for residential mobility are shaped by the changing population composition of neighbourhoods. Studies of residential sorting demonstrate that different socio-economic groups tend to move between particular types of neighbourhood (Bailey and Livingston, 2008; Bailey, 2012; Crowder et al., 2012; Norman et al., 2005; Quillian, 2003; South et al., 2005). Within this literature there has been a particular focus on disadvantaged neighbourhoods where levels of satisfaction tend to be lower (Parkes et al., 2002). Feijten and van Ham (2009) posit that people tend to avoid living in these areas as they are perceived to have a poorer reputation, more problems with crime, a lower quality built environment and less adherence to mainstream values and norms (for example regarding work or family formation). These concerns are likely to be particularly influential for more affluent individuals who have greater freedom to choose where to live.

Housing tenure mix may also shape residential mobility decisions by affecting how people perceive neighbourhoods. US research argues that people eschew places with a high proportion of renters because renting is thought to be associated with greater population turnover and fewer of the physical and social investments (for example in building maintenance or community ties) that make neighbourhoods desirable places to live (Coulson et al., 2003; DiPasquale and Glaeser, 1999; Hipp, 2009). Renters tend also to have fewer resources than owners and thus a high proportion of renters in a neighbourhood may act as a proxy for low socio-economic status. Taken together these mechanisms suggest that people may be particularly likely to want to leave neighbourhoods where owner-occupation is rare or becoming less common.

A large literature has established that residential mobility is configured by the changing ethnic composition of neighbourhoods (Crowder et al., 2012). Although some diverse and gentrifying areas attract movers (for example Inner London), in general it is thought that people tend to seek to leave neighbourhoods with a high proportion of ethnic minorities (van Ham and Feijten, 2008). There are a number of reasons why this might be the case. On the one hand, discrimination and ideas of White Flight suggest that some people may view ethnically concentrated neighbourhoods and places experiencing an influx of minorities to be undesirable places to live (Kaufmann and Harris, 2013). On the other, the racial proxy hypothesis posits that minorities' weaker economic position means that they are channelled into less desirable neighbourhoods with poorer services and a lower quality built environment (van Ham and Feijten, 2008). A growing concentration of minorities in a neighbourhood could therefore generate residential stress and dissatisfaction by signalling socio-economic decline and growing social disorganisation (Feijten and van Ham, 2009). If the racial proxy hypothesis is correct then there will not be any

significant associations between ethnic change and moving desires after controlling for socio-economic deprivation.

Taken together these points lead to our first hypothesis:

H1: The likelihood of desiring to move is greater in neighbourhoods with (a) an increasing proportion of ethnic minorities and (b) an increasing proportion of renters.

Our understanding of neighbourhood sorting was significantly advanced by Schelling's (1971) theory that moving behaviour is shaped by the interaction between individual attributes and neighbourhood characteristics. Schelling's work and extensions by Clark (1991), Ihlanfeldt and Scafidi (2002) and Clark and Fossett (2008) showed that minor group differences in preferences regarding the ethnic composition of neighbourhoods can have large aggregate effects. An important component of Schelling's model is that people for the most part do not want to be a minority in their neighbourhood. This means that people may be particularly likely to want to leave neighbourhoods where they differ from the flow of incomers (Feijten and van Ham, 2009).

There are various reasons to expect the associations between neighbourhood change and preferences for residential mobility to be mediated by individual attributes. Public debates about White Flight and ethnic segregation suggest that whites will be more likely than ethnic minorities to want to leave neighbourhoods with an increasing concentration of minorities because people prefer to live with individuals from a similar ethnic background (Finney and Simpson, 2009; Kaufmann and Harris, 2013). Although this is often interpreted negatively as a preference for segregation and 'parallel lives', ethnic clustering can also improve ethnic minorities' access to specialised services and cultural facilities whilst fostering a shared sense of community (Peach, 1996).

Tenure change may also have different implications for homeowners and renters. Homeowners are particularly likely to value neighbourhoods with a high proportion of owners if renting negatively affects housing values by increasing population churn and social disorganisation, reducing community cohesion and lowering the quality of the built environment (DiPasquale and Glaser, 1999). This means that homeowners will be more likely than renters to want to leave areas where renting is becoming more common. By contrast, evidence that people tend to move to more advantaged neighbourhoods suggests that preferences for clustering may not apply in the same way to socio-economic status (Clark et al., 2014).

The above discussion suggests a second set of hypotheses:

H2a: Ethnic minorities will be less likely than whites to desire to leave neighbourhoods with an increasing proportion of ethnic minorities.
H2b: Renters will be less likely than owner-occupiers to desire to leave neighbourhoods with an increasing proportion of renters.

Despite the proliferation of neighbourhood effects research few quantitative studies have examined how subjective place attachments and perceived similarity to neighbours may affect moving decisions and perhaps mediate or moderate the

influence of neighbourhood change. Broadly speaking, people who feel that they belong to their neighbourhood are likely to be more emotionally and functionally attached to it, more satisfied and thus less likely to want to leave (Livingston et al., 2010). The residential stability and community cohesion that high levels of place attachment are thought to foster explains why British policymakers are interested in understanding who feels that they 'belong' to diverse and dynamic neighbourhoods (Finney and Jivraj, 2013).

Social capital theories and ideas of homophily suggest that successful and desirable neighbourhoods are characterised by strong ties, common values, collective identities and high levels of participation in community/neighbourhood programs (Coleman, 1988). Notions of social disorganisation suggest that these features may be least prevalent when people feel that they have little in common with their neighbours, perhaps due to high population turnover or ethnic diversity. Although successful neighbourhoods are about more than social capital and methods of social interaction are rapidly changing (Forrest, 2012), in general we can expect people who feel that they have more in common with their neighbours to be less likely to want to move.

These points suggest a final hypothesis:

H3: Individuals who feel that they belong to the neighbourhood or are similar to their neighbours have a lower likelihood of desiring to move than those who do not report belonging to the neighbourhood or feeling similar to their neighbours.

Data and Methods

Survey data

This study used data from the United Kingdom Household Longitudinal Study (UKHLS). UKHLS began in 2009 when a nationally representative sample of 50,000 adults from 30,000 households completed wide-ranging face-to-face interviews between January 2009 and December 2010 (Buck and McFall, 2012). In addition to the general population sample UKHLS includes an 'Ethnic Minority Boost' designed to oversample ethnic minorities (McFall, 2013). Although UKHLS is a panel survey, in this study we draw only on data gathered in the first wave. This is because all first wave interviews were conducted during the period for which we can measure neighbourhood change.

We began by extracting data from all adults completing full interviews in England and Wales. One respondent was then randomly selected from each household, with priority assigned to the main household decision-makers. These were defined as the owners/renters of the dwelling and their partners. Selecting one person per household enables us to concentrate on the relationship between neighbourhood characteristics and moving desires without assuming that individuals are independent within households (Coulter et al., 2012; Steele et al., 2013)[1]. A handful

[1] A downside of this approach is that we are unable to examine the interdependence of moving preferences within households.

of cases (1.9%) with missing data on key variables were then discarded to leave 25845 respondents.

The dependent variable was taken from the answer to the question: *If you could choose, would you stay here in your present home or would you prefer to move somewhere else*? Although this question does not explicitly ask whether respondents would like to change neighbourhoods, it does guide people to report their moving preferences regardless of whether or not they perceive these to be feasible (Buck, 2000). This allows us to pick up those individuals who want to move but who feel unable to do so due to micro-level restrictions (for example inadequate income or caring duties) or broader constraints (such as the availability or cost of alternative housing). In line with previous work 'don't know' responses (0.7% of cases) were treated as indicating no moving desire (Coulter et al., 2011).

Answers to a confidential self-completion extension questionnaire were then used to define two perceptual variables. We coded dummy indicators of 'belonging' and 'similarity' to identify respondents who (strongly) agreed with the statements *I feel like I belong to this neighbourhood* and *I like to think of myself as similar to the people who live in this neighbourhood*. Although the self-completion questionnaire was delivered to all respondents, Lynn et al. (2012) show that around 15% failed to return it. We therefore designated the 20728 respondents who did complete these questions to be the 'analytic sample' used for all modelling work.

Using previous literature we identified a range of personal and dwelling attributes likely to be associated with moving desires (Buck, 2000; Coulter et al., 2011). Definitions and summary statistics for these variables are presented in Table 1. To check whether the analytic sample are a selective subset of all respondents Table 1 compares their attributes (columns four and five) with those of all wave one respondents (columns two and three). The analytic sample appears to be broadly representative although there is a minor underrepresentation of singles, individuals in poor health, people with no qualifications, ethnic minorities, renters and people living in flats. Although some of these groups are known to be particularly prone (not) to move (for example private renters tend to be highly mobile), the level of under-representation is so slight it is unlikely to severely bias the results (see the Methods subsection for further discussion of selectivity). Before running the analyses all continuous predictors in Table 1 were centred on their grand means.

*** Table 1 about here ***

Neighbourhood information

To derive neighbourhood variables we attached micro-geographic identifiers to UKHLS records. Although it is well-known that neighbourhoods are not objective entities and that the scale at which they are defined can affect results (van Ham and Manley, 2012), we defined neighbourhoods pragmatically as 2011 census Lower Layer Super Output Areas (LSOAs). LSOAs are aggregations of output areas designed to contain an average of 1500 individuals and 600 households in an area that is relatively socially homogenous and bounded by meaningful borders such as roads or railways (ONS, 2012).

We use LSOAs for two reasons. First, LSOAs are the finest granular scale at which 2011 census geographic identifiers can be merged on to UKHLS. Second, LSOAs were designed to be consistent through time and 96.5% had identical boundaries at the 2001 and 2011 censuses. Where boundary changes have taken place these typically consist of merges and splits which were resolved by aggregating LSOAs before computing neighbourhood attributes (ONS, 2012). We do not use UKHLS data from Scotland and Northern Ireland as the available census geography is inconsistent with LSOAs.

Neighbourhood characteristics were defined using data from the 2011 census, while neighbourhood changes were defined as the percentage point change occurring between the 2001 and 2011 censuses. As all UKHLS interviews were conducted in 2009-2010 these measures should capture the conditions experienced by respondents. We defined three types of neighbourhood characteristic: the percentage of ethnic minorities, the percentage of renter households and the level of neighbourhood deprivation. As white immigration has been marked and politically potent since 2001 we defined ethnic minorities as all ethnic groups excepting White Britons. We do not disaggregate the proportion of specific minority groups in each neighbourhood as many LSOAs contain few minorities and this makes it difficult to fit and interpret complex cross-level interaction effects. Although we therefore cannot disaggregate how different minority groups experience and respond differently to neighbourhood change, our focus on White Britons is important as the preferences of the majority group strongly affect aggregate patterns of residential mobility (Kaufmann and Harris, 2013).

Neighbourhood deprivation was defined using the Carstairs Index. This uses 2011 census data on the proportion of overcrowded households, persons of low social class, households without car access and the male unemployment rate to classify LSOAs (Norman et al., 2005). Each of these input variables is first standardised in relation to national levels using z-scores. The four unweighted scores are then summed for each LSOA to yield an index where 0 corresponds to the national average and higher (lower) scores indicate more (less) deprived LSOAs (Norman et al., 2005). By controlling for Carstairs score in 2011 we are thus able to capture the effects of some of the economic dimensions of neighbourhoods that may be correlated with the demographic or tenure changes specified in the hypotheses. We do not control for 2001-2011 change in deprivation because Carstairs score is a relative measure of neighbourhood characteristics which could be affected by processes and changes external to the LSOA. Full definitions and summary statistics for all neighbourhood variables are presented in Table 2. The table shows that analytic sample members live in very similar types of neighbourhood to the full sample of respondents.

*** Table 2 about here ***

Methods

We estimated a series of random intercept logistic regression models where the dependent variable is desiring to move and respondents are nested in neighbourhoods (Snijders and Bosker, 2012). Given the low number of individuals nested within each LSOA (mean 1.8) we assumed that the effects of the

independent variables are consistent across neighbourhoods. The fixed part of the models contain personal, dwelling and neighbourhood attributes as well as measures of neighbourhood change and cross-level interactions between individual attributes and neighbourhood variables. The random part contains a parameter allowing the intercept to vary randomly across neighbourhoods (van Ham and Feijten, 2008 for further exposition). This framework allows us to estimate the proportion of residual variation in moving desires located at the neighbourhood level. All models were estimated in Stata 13.1 using adaptive quadrature methods. Although we anticipated that there might be a 'London effect' driven by the capital's unique demography, this hypothesis was not supported by further analysis[2]. We thus report models for individuals living throughout England and Wales.

The models were built up sequentially using tests of model deviance to check the explanatory contribution of each variable. Several additional procedures were then used to ensure that the results are as robust as possible. To help account for selective non-response we included measures of health, employment status, access to cars and dwelling type in the models. Previous research has shown these variables to strongly correlate with non-response (Lynn et al., 2012) and controlling for them should thus reduce bias. We also reran the models for all UKHLS respondents (Appendix Table A1) and compared the results with those obtained from identical models run on the analytic sample (Table 3). Fortunately the results are almost identical. Last, although UKHLS includes non-response weights and indicators to account for survey design (McFall, 2013), how to use this information in multilevel logistic regression is not well understood. We therefore reran our analyses as weighted single-level models (Appendix Tables A2). Comparing these estimates with their multilevel equivalents (Table 3) and unweighted single-level models (not presented) provided no evidence for any systematic design or non-response effects on the main findings. We therefore conclude, insofar as is possible, that our findings are not biased by selective non-responsive.

Analysis

Base models

We began by fitting a null model containing an overall intercept (β_0 in Table 3) and a random effect term (U_{0j} in Table 3) to capture neighbourhood-level deviation from the population average probability of desiring to move. Including U_{0j} allows the calculation of the Variance Partition Coefficient (VPC) estimating the proportion of residual variability in moving desires located at the neighbourhood level (Snijders and Bosker, 2012). The null VPC shows that about 7.3% of the total variance in moving desires is located at the neighbourhood level. This could be due to differences in population composition or the effects of neighbourhood characteristics.

*** Table 3 about here ***

Model 1 in Table 3 adds personal attributes to the null model, almost halving the VPC. This indicates that differences in population composition are a very important

[2] This may be partly because sample size limitations limit the statistical power of regional analysis.

reason why moving desires vary across neighbourhoods. Model 1 shows that age has a negative relationship with desiring to move. Singles and cohabitants are more likely to desire to move than married individuals. People with school-level qualifications are the most likely to desire to move and neither employment nor incomes have a significant link with moving preferences. The costs and stress of residential mobility probably explain why having relocated in the last year is associated with a lower propensity to desire to move (Coulter, 2013). Importantly, moving preferences vary by ethnic background. Individuals of mixed, black or other backgrounds are significantly more likely to desire to move than White Britons, while the inverse is true for Asians[3]. However Model 1 cannot yet tell us whether this is because different ethnic groups tend to live in different types of neighbourhood.

Model 2 adds dwelling attributes and shows that private renters are more likely to desire to move than owner-occupiers. A shortage of dwelling space and living in flats, especially with children, is associated with desiring to move. These effects and many of the effects of the personal controls remain fairly stable across the subsequent models.

Model 3 controls for neighbourhood deprivation as well as the proportion of ethnic minorities and renters in the neighbourhood. Cross-level interaction effects examine whether the effects of these neighbourhood characteristics vary with individual attributes. Adding neighbourhood characteristics reduces the VPC to 3.0%, indicating that only a little of the residual variation in moving desires across neighbourhoods relates to their socio-economic composition, ethnic diversity and tenure mix. Variation in the population composition of neighbourhoods seems to be a more important reason why residential mobility preferences vary across space.

Model 3 shows that living in deprived neighbourhoods is associated with desiring to move. As income rises the positive effects of neighbourhood deprivation increase, indicating that better off individuals are particularly likely to want to leave deprived areas. Interestingly, neighbourhood tenure mix has no significant relationship with desiring to move. While renters are more likely to want to move than homeowners it seems that high levels of renting in an area do not greatly influence moving preferences, even amongst homeowners whose housing wealth is affected by neighbourhood conditions. This may be because the British rental sector is very diverse and thus the impacts of high levels of renting could vary with neighbourhood desirability, rental costs and the relative mix of social and private rental units. Unfortunately it is difficult to examine this without survey responses from many individuals per neighbourhood and richer spatial data than is collected by the census.

Looking at the main effects of ethnicity we see that Asians are significantly less likely than White Britons to want to move, while the inverse is true for those of ‘other’ ethnicities. As ethnicity is interacted with the percentage of minorities in the neighbourhood these results refer to individuals living in homogenous White British neighbourhoods. By contrast, the ‘percent minorities’ effect indicates that White Britons are increasingly likely to want to move as the proportion of minorities in the

[3] It is important to note that these are heterogeneous categories that collapse together distinctive subgroups (for example Indians, Pakistanis, Bangladeshis and Chinese in the Asian category). Unfortunately the sample size restricts further disaggregation.

neighbourhood rises. The interaction terms suggest that this positive association is attenuated for most ethnic minority groups. On the one hand these results show that residential mobility preferences vary across ethnic groups and between individuals of the same ethnicity who live in neighbourhoods with differing proportions of ethnic minorities. On the other, the magnitude of these ethnic differences is surprisingly small.

Hypothesis 1: Neighbourhood change

Model 4 tests H1 by introducing variables measuring the percentage point change in ethnic minorities and renters between 2001 and 2011. Adding these variables seems to weaken the association between neighbourhood ethnic composition and moving desires[4]. In support of H1 we find that people living in neighbourhoods with an increasing proportion of ethnic minorities or renters are more likely to want to move. This suggests that neighbourhood dynamism may matter for residential mobility decisions. The first panel of Table 4 quantifies these effects by showing the predicted probability of desiring to move in three hypothetical neighbourhoods holding all covariates at their sample means. Column three shows the predicted probability in neighbourhoods undergoing mean ethnic (row one) or mean tenure (row two) change between 2001 and 2011, while columns two and four give predictions for neighbourhoods experiencing levels of change one standard deviation below and above the mean respectively[5]. The first row shows that a one standard deviation increase in the proportion of minorities is associated with a 3% rise in the probability of desiring to move. The second row shows that a similar but slightly weaker pattern holds for increasing renting.

*** Table 4 about here ***

Hypothesis 2: Individual attributes and neighbourhood change

Model 5 tests H2 by interacting individual ethnicity (tenure) with neighbourhood ethnic (tenure) change. When these interactions are added the proportion of ethnic minorities and renters are significantly and negatively associated with moving desires. The main effects of ethnicity remain strongly negative for Asians in Model 5, indicating that Asians have a particularly low propensity to want to move. In support of H2a the ethnic change parameter (which now refers to White Britons) shows that White Britons are more likely to want to move from neighbourhoods as the proportion of minorities increases. Most of the ethnic interaction effects are insignificant but they do suggest that the positive effects of ethnic change are slightly more muted for minorities, most notably Asians.

These patterns are more clearly visible from the second panel of Table 4. The probability that White Britons want to move is 8% higher in neighbourhoods with a one standard deviation above the mean increase in minorities as compared with neighbourhoods one standard deviation below the mean. By contrast, the predicted probability that ethnic minorities want to move increases by only 2-4% moving from

[4] Note that we must be cautious when comparing log-odds coefficients across models (Mood, 2010).
[5] Means and standard deviations are shown in Table 2.

left to right across the neighbourhood profiles[6]. Overall these results are broadly consistent with the idea that people like to 'fit in' with their neighbours. However the size of this effect is rather small and cross-level interactions between individual ethnicity and neighbourhood ethnic change seem to be a fairly minor explanation of mobility preferences.

Model 5 in Table 3 and the third panel of Table 4 provide weaker support for H2b. The main effects of tenure indicate that private renters are significantly more likely than owner-occupiers to want to move in homeownership dominated neighbourhoods. Table 4 shows that the predicted probability of wanting to move is 6% higher for private renters as compared with owner-occupiers in neighbourhoods with a one standard deviation below the mean increase in renters between 2001 and 2011. The main effect of tenure change shows that an increasing proportion of renters is associated with a rising probability that owner-occupiers want to move. Table 4 shows that owner-occupiers are 2% more likely to want to move when there is a standard deviation rise in the increase in the proportion of renters in the neighbourhood. However, the weak and insignificant interaction effects in Model 5 suggest that there is not a great deal of difference in how owners and renters respond to tenure change. This is borne out by Table 4 and indeed across all the models we find little evidence to suggest that owner-occupiers are especially prone to want to leave more mixed tenure neighbourhoods.

Hypothesis 3: Belonging and similarity

Model 6 introduces dummies for belonging to the neighbourhood and feeling similar to neighbours. Adding these variables renders ethnicity insignificant, hinting that ethnic differences in perceived belonging and similarity may be a reason for ethnic variation in moving preferences across neighbourhoods. The VPC also falls to an insignificant 2.0% in Model 6.

Model 6 supports H3 as belonging to the neighbourhood and feeling similar to one's neighbours greatly reduces the likelihood of desiring to move. Table 4 shows that people have a 20% lower probability of wanting to move if they feel they belong to their neighbourhood than if they feel they do not belong. Slightly smaller but still highly significant differences are evident for feeling similar to neighbours. This shows that place attachment expressed through feelings of belonging and a perception of 'fitting in' with one's neighbours are powerful correlates of not wanting to move. The magnitude of these effects suggests that whether neighbourhoods are perceived to support residents' identities and sense of community and commonality may constitute a more important 'neighbourhood effect' on residential mobility than local population change.

Importantly, higher levels of ethnic and tenure change still significantly predict wanting to move in Model 6. There are two ways to interpret this evidence. On the one hand it could reflect the selection of more mobile people into more dynamic neighbourhoods. However as we control for a wide range of personal attributes, including duration of residence, it seems plausible that there are also contextual

[6] The large confidence intervals for 'other ethnicities' means we should be circumspect about interpreting their predicted probabilities.

effects of neighbourhood change. Although we control for neighbourhood socio-economic status an increasing concentration of minorities or renters could be correlated with unmeasured changes in neighbourhoods such as greater population churn, an increasingly youthful age profile, a shift towards non-family households or a deteriorating built environment. Further research is required to unpack exactly why moving preferences are associated with ethnic and tenure change.

Conclusions

Debates about ethnic segregation and neighbourhood polarisation rest on seldom tested assumptions about how individual attributes, neighbourhood characteristics and neighbourhood change affect perceptions of residential stress and mobility decision-making (Finney and Simpson, 2009). Much of our knowledge derives from studies examining actual moving behaviour (Crowder et al., 2012) or stated neighbourhood preferences (Clark, 2002). However, many people who want to move do not go on to do so while others may prefer particular types of neighbourhood but not be thinking about moving. This means that linking evidence on stated residential preferences to studies of neighbourhood transitions requires examining how mobility preferences vary across different types of neighbourhoods. In consequence, this paper has examined how individual attributes and the changing characteristics of neighbourhoods are associated with desiring to move.

Four key conclusions can be drawn from the results. First, a small proportion of the observed variation in moving desires across neighbourhoods can be explained by differences in deprivation, tenure mix and ethnic composition. However in keeping with much of the work on neighbourhood effects, the role of these contextual factors is dwarfed by the importance of personal attributes (van Ham and Manley, 2012). The selective sorting of people into neighbourhoods seems to be the single most important reason for spatial variation in moving desires. Neighbourhood attributes matter for residential mobility preferences; but individual, household and dwelling factors seem to matter far more.

Our second insight is highlighting the complex associations between neighbourhood characteristics and moving desires. On the one hand we find evidence for preferences consistent with socio-economic sorting. People living in more deprived areas are significantly more likely to want to move and this effect is more pronounced amongst higher earners. On the other hand there is little suggestion that people want to leave neighbourhoods with a high proportion of renters, regardless of their own tenure. In fact we find a consistent negative association between high levels of renting and desiring to move. This suggests that some neighbourhoods with lots of renters may have other attractive features such as desirable city centre locations. Unpacking how and why the effects of tenure composition vary across space is an important goal for future research.

The associations between ethnic mix and moving desires are relatively weak and highly complex. We find that Asians have a particularly low propensity to report wanting to move while most other minority groups do not differ that much from White Britons once personal, dwelling and neighbourhood factors are taken into account. Qualitative research is required to understand why the moving preferences of Asians

differ so markedly from those of other groups. Overall however ethnicity is a much less relevant factor for moving preferences than is typically assumed by the popular media. After controlling for deprivation and neighbourhood change we find little evidence that White Britons are especially prone to want to leave neighbourhoods with many ethnic minorities. Although these results potentially indicate that White Britons who have a particular aversion to (preference for) living with minorities sort into less (more) ethnic neighbourhoods, this is unlikely to be the full story as residential mobility is a fairly rare event which Kaufmann and Harris (2013) suggest is only weakly configured by attitudes. It seems more likely that diverse neighbourhoods are attractive to some White Britons for other reasons such as lifestyle or accessibility.

Third, the results show that people are slightly more likely to want to move from neighbourhoods experiencing an increasing concentration of minorities or a shift towards renting. We find only partial support for the idea that people may be particularly likely to want to move when they differ from incomers. Homeowners and renters do not respond very differently to an increase in renting within the neighbourhood, which exerts a small positive effect on the moving preferences of all tenure groups. By contrast, the probability that White Britons want to move in response to an increasing concentration of minorities increases marginally faster than the probability that their ethnic minority neighbours want to move. This provides some support for the idea that people slightly prefer living with those of a similar background. The magnitude of these effects is nonetheless dwarfed by the impacts of personal and dwelling characteristics.

The lack of dramatic interactions between individual attributes and neighbourhood change suggests that moving desires are generally more common in dynamic neighbourhoods. There are several reasons why this may be the case. First, it may be that most people see an increasing concentration of minorities and renters as undesirable because these groups tend to be younger, less affluent and more likely to be living in non-family households. Parallel debates about the ‘studentification’ of British cities highlight how long-term residents often perceive these types of incomers to herald a deterioration of the built environment, change in local services and declining community spirit (Sage et al., 2012). Alternatively it is possible that the high rates of population turnover associated with compositional change directly and negatively impact the social fabric of neighbourhoods. Finally and despite the inclusion of a wide range of control variables, it is possible that the results are afflicted by selection effects. However although selection is a perennial problem for neighbourhoods research, if people seek out places where they match their neighbours then we would expect our analyses to under rather than overestimate the importance of neighbourhood variables (van Ham and Feijten, 2008). As UKHLS matures it should become possible to disentangle these potential explanations in more depth.

Our final contribution is to demonstrate that feeling that one belongs to the neighbourhood or is similar to one’s neighbours has a close association with preferring to stay. Although causality may run in both directions, subjective variables measuring how neighbourhoods matter for people’s sense of community and personal and collective identities are often neglected in theories and analysis of moving decisions. Importantly, including belonging and similarity in our models

removes many of the effects of ethnicity. This could imply that different ethnic groups have different feelings of belonging or attach different levels of importance to being similar to their neighbours. Using longitudinal data to analyse how personal, neighbourhood and perceptual factors interact to condition moving desires and subsequent moving behaviour thus remains an important goal for future research.

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References

Bailey N, Livingston M, 2008, "Selective migration and neighborhood deprivation: Evidence from 2001 Census migration data for England and Scotland" *Urban Studies* **45** 943-961.

Bailey N, 2012, "How spatial segregation changes over time: Sorting out the sorting process" *Environment and Planning A* **44** 705-722.

Belot M, Ermisch J, 2009, "Friendship ties and geographical mobility : Evidence from Great Britain" *Journal of the Royal Statistical Society: Series A* **172** 427–442.

Buck N, 2000, "Housing, location and residential mobility", in *Seven Years in the Lives of British Families* Eds R Berthoud, J Gershuny (The Policy Press, London) pp 133–160.

Buck N, McFall S, 2012, "Understanding Society: Design overview" *Longitudinal and Life Course Studies* **3** 5–17.

Clark WAV, 1991, "Residential preferences and neighborhood racial segregation: A test of the Schelling segregation model" *Demography* **28** 1 – 19.

Clark WAV, 2002, "Ethnic preferences and ethnic perceptions in multi-ethnic settings" *Urban Geography* **23** 237-256.

Clark WAV, Dieleman FM, 1996, *Households and Housing: Choice and Outcomes in the Housing Market* (Center for Urban Policy Research, New Brunswick, NJ).

Clark WAV, Huang Y, 2004, "Linking migration and mobility: Individual and contextual effects in British housing markets" *Regional Studies* **38** 617-628.

Clark WAV, Ledwith V, 2007, How much does income matter in neighborhood choice? *Population Research and Policy Review* **26** 145-161.

Clark WAV, Fossett M, 2008, "Understanding the social context of the Schelling segregation model" *Proceedings of the National Academy of Sciences* **105** 4109-4114.

Clark WAV, van Ham M, Coulter R, 2014, "Spatial mobility and social outcomes" *Journal of Housing and the Built Environment* **29** 699-727.

Coleman JS, 1988, "Social capital in the creation of human capital" *American Journal of Sociology* **94** S95-S120.

Coulson NE, Hwang S, Imai S, 2003, "The value of owner occupation in neighborhoods" *Journal of Housing Research* **13** 153 – 174.

Coulter R, 2013, "Wishful thinking and the abandonment of moving desires over the life course" *Environment and Planning A* **45** 1944-1962.

Coulter R, van Ham M, Feijten P, 2011, "A longitudinal analysis of moving desires, expectations and actual moving behaviour" *Environment and Planning A* **43** 2742–2760.

Coulter R, van Ham M, Feijten P, 2012, "Partner (dis)agreement on moving desires and the subsequent moving behaviour of couples" *Population, Space and Place* **18** 16-30.

Crowder K, Pais J, South SJ, 2012, "Neighborhood diversity, metropolitan constraints, and household migration" *American Sociological Review* **77** 325–353.

DiPasquale D, Glaeser EL,1999, Incentives and social capital: Are homeowners better citizens ? *Journal of Urban Economics* **45** 354–384.

Feijten P, Hooimeijer P, Mulder CH, 2008, "Residential experience and residential environment choice over the life-course" *Urban Studies* **45** 141–162.

Feijten P, van Ham M, 2009, "Neighbourhood change... reason to leave?" *Urban Studies* **46** 2103–2122.

Finney N, Jivraj S, 2013, "Ethnic group population change and neighbourhood belonging" *Urban Studies* **50** 3323–3341.

Finney S, Simpson L, 2009, '*Sleepwalking to Segregation?' Challenging Myths about Race and Migration* (Bristol, Policy Press).

Forrest R, 2012, “Housing and social life” in *The SAGE Handbook of Housing Studies* Eds D Clapham, WAV Clark, K Gibb pp. 313-326 (SAGE, London).

Gibb K, 2012, “Institutional Economics” in *The SAGE Handbook of Housing Studies* Eds D Clapham, WAV Clark, K Gib (SAGE, London) pp 131-146

Glaeser EL, Gottlieb JD, 2006, “Urban resurgence and the consumer city” *Urban Studies* **43** 1275-1299.

Glaeser EL, Kolko J, Saiz A, 2001, “Consumer city” *Journal of Economic Geography* **1** 27-50.

Hedman L, van Ham M, 2012, “Understanding neighbourhood effects: Selection bias and residential mobility” in *Neighbourhood Effects Research: New Perspectives* Eds M van Ham, D Manley, N Bailey, L Simpson, D Maclennan pp. 79-99 (Springer, Dordrecht).

Hipp JR, 2009, “Specifying the determinants of neighborhood satisfaction: A robust assessment in 24 metropolitan areas” *Social Forces* **88** 395–424.

Ihlanfeldt KR, Scafidi B, 2002, “Black self-segregation as a cause of housing segregation: Evidence from the multi-city study of urban inequality” *Journal of Urban Economics* **51** 366 – 390.

Kaufmann E, Harris G, 2013, “’White flight’?: Opposition to diversity and mobility decisions in Britain, 1991-2012”, unpublished working paper, available at <http://www.sneps.net/research-interests/whiteworkingclass> (accessed 28/09/15).

Kearns A, Parkes A, 2003, “Living in and leaving poor neighborhood conditions in England” *Housing Studies* **18** 827–851.

Lynn P, Burton J, Kaminska O, Knies G, Nandi A, 2012, “An initial look at non-response and attrition in Understanding Society” *Understanding Society Working Paper 2012-02* (University of Essex, Colchester).

McFall S, 2013, *Understanding Society: The UK Household Longitudinal Study Waves 1-3, User Manual* (University of Essex, Colchester).

Maclennan D, 2012, “Understanding housing markets: Real progress or stalled agendas?” in *The SAGE Handbook of Housing Studies* Eds D Clapham, WAV Clark, K Gib (SAGE, London) pp 5-26.

Mood C, 2010, “Logistic regression: Why we cannot do what we think we can do, and what we can do about it” *European Sociological Review* **26** 67-82.

Mulder CH, 2007, “The family context and residential choice: A challenge for new research” *Population, Space and Place* **13** 265–278.

Norman P, Boyle P, Rees P, 2005, “Selective migration, health and deprivation: A longitudinal analysis” *Social Science and Medicine* **60** 2755–2771.

Office for National Statistics (ONS), 2012, *Changes to Output Areas and Super Output Areas in England and Wales, 2001 to 2011*, (Office for National Statistics, Newport), available at <http://www.ons.gov.uk/ons/guide-method/geography/products/census/lookup/index.html> (accessed 28/09/15).

Parkes A, Kearns A, Atkinson R, 2002, “What makes people dissatisfied with their neighborhoods?” *Urban Studies* **39** 2413 – 2438.

Peach C, 1996, “Good segregation, bad segregation” *Planning Perspectives* **11** 397-398.

Permentier M, van Ham M, Bolt G, 2009, “Neighbourhood reputation and the intention to leave the neighbourhood” *Environment and Planning A* **41** 2162-2180.

Quillian L, 2003, "How long are exposures to poor neighborhoods? The long-term dynamics of entry and exit from poor neighborhoods" *Population Research and Policy Review* **22** 221-249.

Rabe B, Taylor M, 2010, “Residential mobility, quality of neighbourhood and life course events” *Journal of the Royal Statistical Society: Series A* **173** 531–555.

Robson B, Lymperopoulou K, Rae A, 2008 “People on the move: Exploring the functional roles of deprived neighbourhoods” *Environment and Planning A* **40** 2693–2714.

Ronald R, 2008, *The Ideology of Home Ownership: Homeowner Societies and the Role of Housing* (Palgrave Macmillan, Basingstoke).

Rossi PH, 1955, *Why Families Move: A Study in the Social Psychology of Urban Residential Mobility* (Free Press, Glencoe, IL).

Schelling TC, 1971, “Dynamic models of segregation" *Journal of Mathematical Sociology* **1** 143 -186.

Smith S, 2011, Home price dynamics: A behavioural economy? *Housing Theory and Society* **28** 236-261.

Snijders TAB, Bosker RJ, 2012, *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling* (2nd Edition) (SAGE, London).

South SJ, Pais J, Crowder K, 2011, “Metropolitan influences on migration into poor and non- poor neighborhoods” *Social Science Research* **40** 950-964.

South SJ, Crowder K, Chavez E, 2005, "Exiting and entering high-poverty neighborhoods: Latinos, Blacks and Anglos compared" *Social Forces* **84** 873-900.

Steele F, Clarke P, Washbrook E, 2013, “Modeling household decisions using longitudinal data from household panel surveys, with applications to residential mobility *Sociological Methodology* **43** 220–271.

Speare A, Goldstein S, Frey WH, 1975, *Residential Mobility, Migration and Metropolitan Change* (Ballinger, Cambridge MA).
van Ham M, Manley D, Bailey N, Simpson L, Maclennan D, (Eds) 2013, *Understanding Neighbourhood Dynamics*. (Springer, Dordrecht).

van Ham M, Manley D, Bailey N, Simpson L, Maclennan D, (Eds). 2012, *Neighbourhood Effects Research: New Perspectives*. (Springer, Dordrecht).

van Ham M, Feijten P, 2008, “Who wants to leave the neighbourhood? The effect of being different from the neighbourhood population on wishes to move” *Environment and Planning A* **40** 1151–1170.

van Ham M, Manley D, 2012, “Neighbourhood effects research at a crossroads. Ten challenges for future research” *Environment and Planning A* **44** 2787–2793.

Table 1. Summary statistics for personal and dwelling attributes

Variables	All respondents		Analytic sample	
	%	Mean (SD)	%	Mean (SD)
1. Dependent variable				
Desires to move				
No	60.24		60.36	
Yes	39.76		39.64	
2. Personal attributes				
Age		49.17 (17.04)		48.92 (16.71)
Gender				
M	40.97		40.78	
F	59.03		59.22	
Partnership status				
Single	42.04		40.76	
Cohabiting	10.56		11.18	
Married	47.39		48.06	
Lives with own children aged<16[a]				
No children	68.42		68.81	
Children	31.58		31.19	
Poor health				
No (self-report health good/very good/excellent)	75.82		77.27	
Yes (self-report fair/poor health)	24.18		22.73	
Education level (highest qualification)				
University degree or vocational equivalent	34.01		35.75	
School-level (eg. GCSE or A-Level)	35.48		36.52	
Basic/no qualifications	30.52		27.73	
Employment status				
Employed	54.43		56.57	
Unemployed	4.09		4.21	
Inactive	41.48		39.23	
Ln household income[b]		7.10 (1.08)		7.16 (1.01)
Number of vehicles in household				
0	25.36		22.88	
1	43.38		43.69	
2	24.95		26.62	
3 or more	6.32		6.80	
Years in dwelling				
<=1	15.28		15.23	
2-4	19.54		19.74	
5-9	19.72		19.88	
10-19	20.44		20.43	
20+	25.02		24.72	
Ethnicity				
White British (inc. English, Welsh, Scottish, Northern Irish)	75.07		79.28	
Other White (Irish, Gypsy/Traveller, Other White)	4.07		3.93	
Mixed	1.78		1.72	
Asian (Indian, Pakistani, Bangladeshi, Chinese, Other Asian)	10.87		8.51	
Black (Black Caribbean, Black African, Other Black)	6.93		5.60	
Other (Arab, Other)	1.27		0.96	
3.Dwelling characteristics				
Housing tenure				
Ownership (outright, with mortgage, shared)	62.97		65.25	
Social rent (rents from council or Housing Association)	20.40		18.33	
Privately rented (private landlord, employer or other)	16.63		16.42	
Ln roomstress (n persons/n rooms)		-0.66 (0.54)		-0.67 (0.53)

Table 1 continues on next page

Dwelling type		
House	81.43	82.72
Flat/other (includes bedsits)	18.57	17.28
4. Perceived belonging and similarity[c]		
Belong to neighbourhood		
No	32.45	32.61
Yes	67.55	67.39
Feel similar to others in neighbourhood		
No	38.89	38.96
Yes	61.11	61.04
N respondents	25845	20728

[a] This variable produced more effective and parsimonious models than a dummy for 'any children' or a categorical indicator identifying children of different ages.
[b] Expressed in January 2009 £ and equivalised to take into account household needs using the Modified OECD scale.
[c] The N for these variables is lower than the column total for the all respondents column.

Table 2. Summary statistics for ecological variables

Variable	All respondents		Analytic sample	
	Mean	SD	Mean	SD
1. Neighbourhood characteristics in 2011				
Carstairs score[a]	0.48	3.29	0.35	3.22
Percent ethnic minorities[b]	23.27	25.68	21.76	24.59
Percent renters[c]	37.18	21.10	36.51	20.89
2. Neighbourhood change 2001-2011				
Percentage point change in minorities[b]	7.06	7.54	6.83	7.44
Percentage point change in renters[c]	4.50	5.74	4.46	5.68
N LSOAs	13333		11757	

[a] Standardised to all English and Welsh LSOAs. Higher values indicate greater deprivation.
[b] Defined as all individuals who are not White British.
[c] Defined at the household level.

Table 3. Multilevel logistic regression models of desiring to move in England and Wales

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Age	-0.027	0.001***	-0.022	0.002***	-0.020	0.002***	-0.020	0.002***	-0.020	0.002***	-0.015	0.002***
Age^2	-0.000	0.000***	-0.001	0.000***	-0.000	0.000***	-0.000	0.000***	-0.000	0.000***	-0.001	0.000***
Female (ref=male)	0.034	0.032	0.036	0.032	0.049	0.032	0.050	0.032	0.051	0.032	0.071	0.033*
Partnership status (ref=married)												
Single	0.109	0.039**	0.279	0.043***	0.239	0.043***	0.235	0.043***	0.236	0.043***	0.177	0.044***
Cohabiting	0.186	0.052***	0.172	0.053**	0.136	0.053**	0.135	0.053*	0.137	0.053**	0.097	0.054
Lives with children (ref=no)	0.050	0.038	-0.179	0.045***	-0.162	0.045***	-0.160	0.045***	-0.160	0.045***	-0.097	0.046*
Poor health (ref=good or better)	0.291	0.039***	0.266	0.039***	0.240	0.039***	0.237	0.039***	0.236	0.039***	0.165	0.040***
Education level (ref=school)												
University	-0.120	0.036***	-0.071	0.037	-0.036	0.037	-0.030	0.037	-0.029	0.037	-0.074	0.038
Basic/none	-0.082	0.042*	-0.112	0.043**	-0.143	0.043***	-0.145	0.042***	-0.145	0.042***	-0.074	0.044
Employment status (ref=employed)												
Unemployed	0.081	0.077	0.069	0.078	0.063	0.078	0.062	0.078	0.058	0.078	0.089	0.080
Inactive	-0.074	0.041	-0.087	0.042*	-0.079	0.042	-0.078	0.042	-0.078	0.042	-0.055	0.043
Ln household income	-0.009	0.017	0.001	0.017	-0.005	0.018	-0.002	0.018	-0.003	0.018	0.003	0.018
Number of vehicles (ref=1)												
0	0.021	0.043	-0.109	0.045*	-0.157	0.046***	-0.149	0.046**	-0.153	0.046***	-0.105	0.047*
2	-0.182	0.040***	-0.111	0.041**	-0.021	0.041	-0.017	0.041	-0.020	0.041	-0.037	0.042
3 or more	-0.225	0.065***	-0.225	0.066***	-0.095	0.067	-0.086	0.067	-0.089	0.066	-0.110	0.068
Years in dwelling (ref=>=20)												
<=1	-0.237	0.061***	-0.416	0.065***	-0.342	0.066***	-0.360	0.066***	-0.354	0.066***	-0.515	0.068***
2-4	0.053	0.053	-0.052	0.055	0.003	0.055	-0.009	0.055	-0.007	0.055	-0.125	0.056*
5-9	0.097	0.051	0.035	0.052	0.074	0.052	0.065	0.052	0.067	0.052	-0.009	0.053
10-19	0.055	0.049	-0.009	0.050	0.029	0.050	0.026	0.050	0.028	0.050	-0.019	0.051
Ethnicity (ref=White British)												
Other White	0.120	0.078	-0.016	0.080	0.160	0.123	0.134	0.123	0.083	0.122	0.018	0.125
Mixed	0.408	0.114***	0.255	0.116*	0.316	0.223	0.244	0.224	0.253	0.215	0.314	0.223
Asian	-0.116	0.057*	-0.263	0.058***	-0.265	0.127*	-0.398	0.131**	-0.259	0.117*	-0.184	0.119
Black	0.490	0.067***	0.271	0.069***	0.227	0.171	0.083	0.173	0.235	0.151	0.179	0.155
Other ethnicity	0.346	0.151*	0.145	0.154	0.767	0.295**	0.707	0.295*	0.371	0.268	0.365	0.277
Housing tenure (ref=ownership)												
Social rent			-0.007	0.051	0.075	0.117	0.050	0.117	-0.026	0.057	-0.036	0.059
Private rent			0.160	0.052**	0.237	0.098*	0.233	0.098*	0.233	0.064***	0.184	0.066**
Ln roomstress			0.503	0.043***	0.423	0.044***	0.418	0.044***	0.420	0.043***	0.429	0.045***
Flat/other dwelling (ref=house)			0.272	0.052***	0.271	0.053***	0.278	0.053***	0.276	0.053***	0.245	0.054***
Flat/other x lives with children			0.714	0.100***	0.715	0.100***	0.725	0.100***	0.716	0.100***	0.763	0.103***

2011 Carstairs score					0.084	0.009***	0.085	0.009***	0.086	0.009***	0.083	0.009***
2011 Carstairs score x income					0.013	0.005**	0.013	0.005**	0.013	0.005**	0.007	0.005
2011 % ethnic minorities					0.004	0.001**	-0.002	0.002	-0.004	0.001***	-0.003	0.001**
Other White x % minorities					-0.008	0.003*	-0.006	0.003				
Mixed x % minorities					-0.006	0.004	-0.003	0.004				
Asian x % minorities					-0.006	0.002**	-0.002	0.002				
Black x % minorities					-0.004	0.003	-0.001	0.003				
Other x % minorities					-0.017	0.006**	-0.015	0.006**				
2011 % renters					-0.003	0.002	-0.003	0.002*	-0.004	0.001**	-0.006	0.001***
Social rent x % renters					-0.003	0.002	-0.002	0.002				
Private rent x % renters					-0.002	0.002	-0.002	0.002				
2001-11 Δ % ethnic minorities							0.014	0.003***	0.022	0.004***	0.014	0.004***
2001-11 Δ % renters							0.012	0.003***	0.015	0.004***	0.013	0.004***
Other White x Δ% minorities									-0.015	0.010	-0.011	0.011
Mixed x Δ% minorities									-0.012	0.015	-0.012	0.015
Asian x Δ% minorities									-0.015	0.007*	-0.007	0.007
Black x Δ% minorities									-0.012	0.009	-0.003	0.009
Other x Δ% minorities									-0.026	0.018	-0.019	0.018
Social rent x Δ% renters									-0.004	0.007	0.000	0.007
Private rent x Δ% renters									-0.011	0.007	-0.010	0.007
Belong to neighbourhood (ref=no)											-0.827	0.037***
Feel similar to others in neighbourhood (ref=no)											-0.546	0.035***
β_0 (null=-0.444, SE=0.016)	-0.397	0.056***	-0.354	0.057***	-0.338	0.076***	-0.368	0.076***	-0.359	0.073***	0.669	0.081***
U_{0j} (null=0.260, SE=0.047)	0.141	0.044**	0.137	0.044**	0.100	0.043*	0.089	0.043*	0.088	0.042*	0.068	0.044
VPC (null=0.073, SE=0.012)	0.041	0.012	0.040	0.012	0.030	0.012	0.026	0.012	0.026	0.012	0.020	0.013
Likelihood ratio chi^2 (df)	1307.69*** (24)		369.17*** (5)		166.80*** (11)		41.76*** (2)		41.57*** (2)		1223.38*** (2)	
BIC (null=27816.780)	26747.631		26428.157		26370.686		26348.806		26348.997		25145.495	
N cases (null=20728)	20728		20728		20728		20728		20728		20728	

Notes: * p<0.05, ** p<0.01, *** p<0.001. Variance Partition Coefficient (VPC). Bayesian Information Criterion (BIC). Δ indicates percentage point change between 2001 and 2011. Likelihood ratio tests compare the current and previous models (Model 3 in the case of Model 5).

Table 4. Predicted probabilities of desiring to move

Hypothesis 1 (Model 4)	**Change in neighbourhood composition 2001-2011**		
	-1 Std. Dev.	Mean	+1 Std. Dev.
Δ % minorities	0.40 (0.38-0.42)	0.43 (0.42-0.44)	0.46 (0.44-0.47)
Δ % renters	0.41 (0.40-0.43)	0.43 (0.42-0.44)	0.45 (0.43-0.46)

Hypothesis 2a (Model 5)	**Change in % ethnic minorities 2001-2011**		
	-1 Std. Dev.	Mean	+1 Std. Dev.
White British	0.39 (0.38-0.41)	0.43 (0.42-0.45)	0.47 (0.45-0.49)
White Other	0.42 (0.36-0.48)	0.43 (0.39-0.47)	0.44 (0.40-0.49)
Mixed	0.46 (0.35-0.57)	0.48 (0.41-0.55)	0.50 (0.44-0.56)
Asian	0.34 (0.29-0.39)	0.35 (0.31-0.38)	0.36 (0.33-0.39)
Black	0.45 (0.38-0.53)	0.47 (0.42-0.52)	0.49 (0.45-0.53)
Other	0.49 (0.35-0.62)	0.48 (0.39-0.57)	0.47 (0.40-0.55)

Hypothesis 2b (Model 5)	**Change in % renters 2001-2011**		
	-1 Std. Dev.	Mean	+1 Std. Dev.
Ownership	0.40 (0.38-0.42)	0.42 (0.41-0.44)	0.44 (0.43-0.46)
Social rent	0.40 (0.37-0.42)	0.41 (0.39-0.43)	0.43 (0.40-0.46)
Private rent	0.46 (0.43-0.49)	0.47 (0.44-0.49)	0.47 (0.45-0.50)

Hypothesis 3 (Model 6)	**Change in neighbourhood composition 2001-2011**
	Mean
Belong to neighbourhood	0.36 (0.35-0.37)
Do not belong to neighbourhood	0.56 (0.55-0.58)
Feel similar to neighbours	0.37 (0.36-0.39)
Do not feel similar to neighbours	0.51 (0.49-0.52)

Notes: All covariates fixed at sample means. Random effects set to zero. 95% confidence intervals in parentheses. -1 (+1) standard deviation refers to neighbourhoods experiencing levels of change that are one standard deviation below (above) the mean (Table 2 for values).

Appendix Table A1. Multilevel logistic regression models of desiring to move in England and Wales for all respondents

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Age	-0.026	0.001***	-0.022	0.001***	-0.020	0.001***	-0.020	0.001***	-0.020	0.001***
Age^2	-0.000	0.000***	-0.001	0.000***	-0.001	0.000***	-0.001	0.000***	-0.001	0.000***
Female (ref=male)	0.040	0.028	0.044	0.028	0.056	0.028*	0.057	0.028*	0.057	0.028*
Partnership status (ref=married)										
Single	0.107	0.034**	0.249	0.038***	0.212	0.038***	0.209	0.038***	0.211	0.038***
Cohabiting	0.174	0.047***	0.157	0.048**	0.128	0.048**	0.128	0.048**	0.128	0.048**
Lives with children (ref=no)	0.042	0.034	-0.169	0.040***	-0.151	0.040***	-0.151	0.040***	-0.152	0.040***
Poor health (ref=good or better)	0.281	0.034***	0.264	0.035***	0.238	0.035***	0.234	0.035***	0.234	0.035***
Education level (ref=school)										
University	-0.078	0.033*	-0.034	0.033	0.001	0.034	0.006	0.033	0.007	0.033
Basic/none	-0.085	0.037*	-0.118	0.037**	-0.149	0.037***	-0.150	0.037***	-0.151	0.037***
Employment status (ref=employed)										
Unemployed	0.120	0.069	0.101	0.070	0.089	0.070	0.088	0.069	0.086	0.069
Inactive	-0.074	0.036*	-0.094	0.037*	-0.086	0.037*	-0.084	0.037*	-0.084	0.037*
Ln household income	-0.011	0.014	-0.007	0.014	-0.016	0.015	-0.013	0.015	-0.014	0.015
Number of vehicles (ref=1)										
0	0.019	0.037	-0.103	0.039**	-0.148	0.040***	-0.140	0.040***	-0.142	0.039***
2	-0.174	0.036***	-0.097	0.037**	-0.010	0.037	-0.005	0.037	-0.008	0.037
3 or more	-0.245	0.060***	-0.229	0.060***	-0.100	0.061	-0.093	0.061	-0.097	0.061
Years in dwelling (ref=>=20)										
<=1	-0.204	0.053***	-0.383	0.057***	-0.322	0.058***	-0.343	0.058***	-0.338	0.058***
2-4	0.086	0.047	-0.015	0.048	0.033	0.049	0.018	0.049	0.020	0.049
5-9	0.124	0.045**	0.060	0.046	0.097	0.046*	0.085	0.046	0.087	0.046
10-19	0.072	0.043	0.013	0.044	0.046	0.044	0.042	0.044	0.044	0.044
Ethnicity (ref=White British)										
Other White	0.099	0.068	-0.037	0.069	0.199	0.109	0.172	0.109	0.069	0.107
Mixed	0.471	0.100***	0.341	0.101***	0.239	0.197	0.167	0.197	0.287	0.185
Asian	-0.170	0.046***	-0.326	0.048***	-0.276	0.107*	-0.424	0.111***	-0.278	0.095**
Black	0.430	0.054***	0.230	0.056***	0.256	0.142	0.100	0.145	0.171	0.122
Other ethnicity	0.230	0.117*	0.039	0.119	0.473	0.242	0.400	0.242	0.273	0.212
Housing tenure (ref=ownership)										
Social rent			0.031	0.044	0.179	0.101	0.149	0.101	0.024	0.050
Private rent			0.212	0.046***	0.269	0.088**	0.265	0.088**	0.276	0.057***
Ln roomstress			0.427	0.038***	0.353	0.038***	0.349	0.038***	0.353	0.038***
Flat/other dwelling (ref=house)			0.232	0.045***	0.241	0.046***	0.250	0.046***	0.246	0.046***
Flat/other x lives with children			0.663	0.083***	0.666	0.083***	0.680	0.083***	0.669	0.083***

2011 Carstairs score					0.079	0.008***	0.079	0.008***	0.079	0.008***
2011 Carstairs score x income					0.011	0.004**	0.011	0.004**	0.011	0.004**
2011 % ethnic minorities					0.002	0.001*	-0.003	0.001*	-0.005	0.001***
Other White x % ethnic minorities					-0.009	0.003***	-0.008	0.003**		
Mixed x % minorities					-0.002	0.004	0.001	0.004		
Asian x % minorities					-0.006	0.002**	-0.002	0.002		
Black x % minorities					-0.005	0.002*	-0.001	0.003		
Other x % minorities					-0.012	0.004**	-0.009	0.004*		
2011 % renters					-0.001	0.001	-0.002	0.001	-0.003	0.001*
Social rent x % renters					-0.005	0.002*	-0.003	0.002		
Private rent x % renters					-0.001	0.002	-0.001	0.002		
2001-11 Δ % ethnic minorities							0.014	0.003***	0.022	0.003***
2001-11 Δ % renters							0.010	0.003***	0.015	0.003***
Other White x Δ% minorities									-0.014	0.009
Mixed x Δ% minorities									-0.005	0.013
Asian x Δ% minorities									-0.016	0.006**
Black x Δ% minorities									-0.008	0.007
Other x Δ% minorities									-0.024	0.014
Social rent x Δ% renters									-0.011	0.006
Private rent x Δ% renters									-0.010	0.006
β_0 (null=-0.434, SE=0.014)	-0.409	0.050***	-0.375	0.051***	-0.390	0.068***	-0.414	0.068***	-0.404	0.065***
U_{0j} (null=0.194, SE=0.036)	0.090	0.034**	0.092	0.034**	0.062	0.033	0.049	0.033	0.050	0.033
VPC (null=0.056, SE=0.010)	0.027	0.010	0.027	0.010	0.018	0.010	0.015	0.010	0.015	0.010
Likelihood ratio chi^2 (df)	1697.31*** (24)		409.79*** (5)		192.19*** (11)		51.50*** (2)		52.68*** (2)	
BIC (null=34718.962)	33265.489		32906.502		32826.074		32794.889		32793.711	
N respondents (null=25845)	25845		25845		25845		25845		25845	

Notes: * p<0.05, ** p<0.01, *** p<0.001. Variance Partition Coefficient (VPC). Bayesian Information Criterion (BIC). Δ indicates percentage point change between 2001 and 2011. Likelihood ratio tests compare the current and previous models (Model 3 in the case of Model 5).

Appendix Table A2. Weighted single-level logistic regression models of desiring to move in England and Wales

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE	Coeff.	SE
Age	-0.028	0.002***	-0.022	0.002***	-0.021	0.002***	-0.021	0.002***	-0.021	0.002***	-0.016	0.002***
Age^2	-0.000	0.000***	-0.000	0.000***	-0.000	0.000***	-0.000	0.000***	-0.000	0.000***	-0.000	0.000***
Female (ref=male)	0.024	0.033	0.029	0.034	0.041	0.034	0.043	0.034	0.042	0.034	0.062	0.035
Partnership status (ref=married)												
Single	0.115	0.042**	0.267	0.047***	0.237	0.047***	0.230	0.047***	0.228	0.047***	0.179	0.048***
Cohabiting	0.177	0.055**	0.162	0.055**	0.130	0.055*	0.130	0.055*	0.126	0.055*	0.101	0.057
Lives with children (ref=no)	0.023	0.040	-0.168	0.046***	-0.148	0.047**	-0.146	0.047**	-0.149	0.047**	-0.090	0.049
Poor health (ref=good or better)	0.259	0.041***	0.230	0.042***	0.209	0.042***	0.203	0.042***	0.202	0.042***	0.134	0.044**
Education level (ref=school)												
University	-0.139	0.037***	-0.095	0.038*	-0.059	0.039	-0.048	0.039	-0.047	0.039	-0.093	0.041*
Basic/none	-0.039	0.044	-0.071	0.044	-0.099	0.045*	-0.102	0.045*	-0.103	0.045*	-0.024	0.046
Employment status (ref=employed)												
Unemployed	0.104	0.084	0.089	0.085	0.088	0.085	0.082	0.086	0.082	0.086	0.103	0.090
Inactive	-0.063	0.043	-0.073	0.044	-0.063	0.045	-0.062	0.045	-0.059	0.045	-0.034	0.046
Ln household income	-0.013	0.018	-0.004	0.018	-0.002	0.019	0.001	0.019	0.000	0.019	0.010	0.020
Number of vehicles (ref=1)												
0	0.005	0.046	-0.122	0.048*	-0.183	0.049***	-0.167	0.049***	-0.164	0.049***	-0.125	0.051*
2	-0.159	0.043***	-0.093	0.043*	-0.015	0.044	-0.011	0.044	-0.008	0.044	-0.027	0.045
3 or more	-0.220	0.067***	-0.221	0.067**	-0.109	0.069	-0.103	0.069	-0.098	0.069	-0.119	0.070
Years in dwelling (ref=>=20)												
<=1	-0.255	0.068***	-0.424	0.071***	-0.363	0.072***	-0.381	0.072***	-0.371	0.072***	-0.549	0.074***
2-4	0.058	0.059	-0.039	0.060	0.010	0.060	-0.001	0.060	-0.001	0.060	-0.132	0.061*
5-9	0.114	0.057*	0.054	0.057	0.091	0.058	0.084	0.058	0.086	0.058	0.006	0.059
10-19	0.046	0.052	-0.014	0.053	0.021	0.053	0.018	0.053	0.020	0.053	-0.031	0.055
Ethnicity (ref=White British)												
Other White	0.095	0.078	-0.038	0.080	0.075	0.122	0.038	0.124	-0.035	0.127	-0.090	0.130
Mixed	0.351	0.133**	0.203	0.135	0.335	0.243	0.277	0.245	0.314	0.240	0.367	0.255
Asian	-0.212	0.065**	-0.330	0.066***	-0.287	0.143*	-0.409	0.148**	-0.309	0.135*	-0.248	0.138
Black	0.415	0.073***	0.203	0.075**	0.318	0.190	0.175	0.194	0.286	0.170	0.270	0.186
Other ethnicity	0.450	0.175*	0.244	0.178	0.793	0.326*	0.738	0.327*	0.549	0.302	0.457	0.310
Housing tenure (ref=ownership)												
Social rent			0.009	0.054	-0.064	0.125	-0.094	0.125	-0.005	0.061	-0.009	0.063
Private rent			0.152	0.053**	0.113	0.106	0.116	0.106	0.241	0.068***	0.193	0.071**
Ln roomstress			0.481	0.047***	0.415	0.048***	0.408	0.048***	0.409	0.048***	0.419	0.049***
Flat/other dwelling (ref=house)			0.252	0.059***	0.248	0.060***	0.262	0.061***	0.266	0.061***	0.238	0.063***
Flat/other x children			0.665	0.113***	0.676	0.115***	0.684	0.115***	0.678	0.115***	0.710	0.120***

2011 Carstairs score					0.083	0.011***	0.082	0.011***	0.081	0.010***	0.077	0.011***
2011 Carstairs score x income					0.014	0.005**	0.014	0.005**	0.013	0.005**	0.007	0.005
2011 % ethnic minorities					0.003	0.001*	-0.003	0.002	-0.005	0.001***	-0.005	0.002**
Other White x % minorities					-0.006	0.003	-0.003	0.004				
Mixed x % minorities					-0.007	0.005	-0.004	0.005				
Asian x % minorities					-0.006	0.003*	-0.002	0.003				
Black x % minorities					-0.007	0.003*	-0.003	0.003				
Other x % minorities					-0.017	0.006**	-0.015	0.007*				
2011 % renters					-0.005	0.002*	-0.005	0.002**	-0.004	0.002**	-0.005	0.002**
social rent x % renters					0.000	0.002	0.002	0.002				
private rent x % renters					0.002	0.002	0.001	0.002				
2001-11 Δ % ethnic minorities							0.018	0.004***	0.023	0.005***	0.017	0.005***
2001-11 Δ % renters							0.013	0.003***	0.017	0.004***	0.016	0.004***
Other White x Δ % minorities									-0.003	0.012	0.001	0.012
Mixed x Δ % minorities									-0.017	0.017	-0.015	0.017
Asian x Δ % minorities									-0.013	0.008	-0.003	0.009
Black x Δ % minorities									-0.017	0.010	-0.008	0.011
Other x Δ % minorities									-0.032	0.020	-0.018	0.022
Social rent x Δ % renters									-0.004	0.008	-0.001	0.008
Private rent x Δ % renters									-0.013	0.008	-0.014	0.008
Belong to neighbourhood (ref=no)											-0.804	0.039***
Feel similar to others in neighbourhood											-0.569	0.037***
Constant	-0.393	0.062***	-0.365	0.063***	-0.290	0.085***	-0.335	0.086***	-0.377	0.084***	0.638	0.090***
N cases	20444		20444		20444		20444		20444		20444	

Notes: * $p<0.05$ ** $p<0.01$ *** $p<0.001$. Δ indicates percentage point change between 2001 and 2011. The n cases is lower than in Table 3 because 284 cases have 0 weight.